

**CLAIMS**

- 5 1. Coupling system between high-voltage electrical equipment composed of a connector or union assembly (1) which comprises an insulating shell (2) inside which are housed conducting elements, whose external surface is partially covered by a conducting or semi-conducting layer (3), characterised in that it incorporates a protection device (6) disposed surrounding the semi-conducting layer (3).
- 10 2. Coupling system between high-voltage electrical equipment according to claim 1, characterised in that the protection device (3) consists of a conducting ring connected to earth.
3. Coupling system between high-voltage electrical equipment according to claim 2, characterised in that the conducting ring connected to earth is metallic.
- 15 4. Coupling system between high-voltage electrical equipment according to claim 1, characterised in that the protection device incorporates an inductive current sensor.
- 20 5. Coupling system between high-voltage electrical equipment according to claim 4, characterised in that the current sensor consists of a Rogowski coil.
6. Coupling system between high-voltage electrical equipment according to claim 4, characterised in that the current sensor consists of a winding (8) about a magnetic core (7).
7. Coupling system between high-voltage electrical equipment according to

the previous claims, characterised in that the protection device (6) incorporates a capacitive voltage sensor.

- 5           8. Coupling system between high-voltage electrical equipment according to claim 1, characterised in that the protection device (6) encompasses all the connectors (1) of the phases of the coupling system between high-voltage equipment.
9. Coupling system between high-voltage electrical equipment according to claim 8, characterised in that the protection device (6) consists of a conducting ring connected to earth.
- 10       10. Coupling system between high-voltage electrical equipment according to claim 9, characterised in that the conducting ring connected to earth is metallic.
11. Coupling system between high-voltage electrical equipment according to claim 8, characterised in that it comprises a current sensor that externally  
15           encompasses all phases.
12. Coupling system between high-voltage electrical equipment according to claim 11, characterised in that it comprises a current sensor for each phase.
- 20       13. Coupling system between high-voltage electrical equipment according to claims 8, 11 and 12, characterised in that it incorporates voltage detection for each phase of the main circuit.